

WHAT IS CLAIMED IS:

1. An electronic device comprising:  
an image pickup unit including an image pickup  
element and a lens system;

5 a focus controller configured to change a distance  
between said image pickup element and said lens system  
in accordance with switching between an ordinary  
imaging mode and a fingerprint imaging mode.

10 2. The electronic device according to claim 1,  
further comprising:

a light source provided inside of a body of said  
device and configured to emit light outward of the body  
through said lens system in the fingerprint imaging  
mode.

15 3. The electronic device according to claim 1,  
further comprising:

a request input section configured to determine  
whether or not a request for fingerprint imaging is  
input; and

20 a warning section configured to issue a warning  
if the fingerprint imaging mode is not set when it is  
determined by said request input section that the  
request for fingerprint imaging is input.

25 4. An electronic device comprising:  
an image pickup unit including an image pickup  
lens and an image pickup element arranged on an image  
pickup axis of said image pickup lens, said image

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pickup unit being rotatably provided at a body of said device so that an imaging direction of said image pickup unit is oriented in an inward direction or an outward direction of the body of said device;

5           an image pickup window provided on a side face of the body of said device such that a fingerprint image of a finger pressed against said image pickup window is incident to the image pickup lens when the imaging direction of said image pickup unit is oriented in the inward direction of the body of said device; and

10           a light source provided inside of the body of said device and configured to emit light outward of said body through said image pickup window,

15           wherein an ordinary imaging mode is set if the imaging direction of said image pickup unit is oriented in the outward direction, and a fingerprint imaging mode is set if the imaging direction of said image pickup unit is oriented in the inward direction.

20           5. The electronic device according to claim 4, further comprising a mirror configured to guide the fingerprint image of the finger pressed against said image pickup window to said image pickup element when the imaging direction of said image pickup unit is oriented in the inward direction.

25           6. The electronic device according to claim 4, further comprising:

          a request input section configured to determine

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whether or not a request for fingerprint imaging is input; and

a warning section configured to issue a warning if the imaging direction of said image pickup unit is not oriented in the inward direction when it is determined by said request input section that the request for fingerprint imaging is input.

7. An electronic device comprising:

a slide cover mounted so as to cover one end of a body of said device and expose a part of the body of the device if the slide cover is opened;

an image pickup lens provided on a side face of the one end of the body of the device;

an image pickup element arranged inside of the body of said device and on an image pickup axis of said image pickup lens;

an image pickup window provided on a side face of said slide cover on the image pickup axis; and

a light source provided on the side face of the one end of the body of the device and configured to emit light outwardly of said slide cover through said image pickup window,

wherein an ordinary imaging mode is set if said slide cover covers the one end of the body of said device, and a fingerprint imaging mode is set if said slide cover is opened.

8. The electronic device according to claim 7,

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further comprising:

a request input section configured to determine whether or not a request for fingerprint imaging is input; and

5 a warning section configured to issue a warning if said slide cover is not opened when it is determined by said request input section that the request for fingerprint imaging is input.

9. A fingerprint authentication system comprising  
10 a terminal device and a fingerprint authentication device connected to each other via a network,

said terminal device comprising:

a fingerprint reader configured to read  
a fingerprint image of a user; and

15 a fingerprint transmitter configured to transmit the fingerprint image read by said fingerprint reader to said fingerprint authentication device, and

said fingerprint authentication device comprising:

20 a memory configured to store a reference fingerprint image;

a fingerprint receiver configured to receive the fingerprint image transmitted from said fingerprint transmitter; and

25 a collation section configured to collate the fingerprint image received by said fingerprint receiver with at least part of the reference fingerprint image based on a size of the fingerprint image received by

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said fingerprint receiver.

10. The fingerprint authentication system according to claim 9, wherein said collation section comprises:

5 a detector configured to detect a plurality of small regions in the reference fingerprint image having a maximum correlation with regard to the fingerprint image received by said fingerprint receiver; and

10 a determining section configured to determine identity between the fingerprint image received by said fingerprint receiver and the reference fingerprint image based on a position relationship of the plurality of small regions.

11. The fingerprint authentication system according to claim 10, wherein

said fingerprint reader reads a partial fingerprint image;

said fingerprint transmitter transmits a plurality of partial fingerprint images;

20 said memory stores the reference fingerprint image of an entire fingerprint; and

said collation section comprises a synthesizer configured to combine the plurality of partial fingerprint images transmitted from said fingerprint transmitter to produce an entire fingerprint image of  
25 the user and collates the entire fingerprint image produced by said synthesizer with the reference

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fingerprint image of an entire fingerprint stored in said memory.

12. The fingerprint authentication system according to claim 9, wherein said fingerprint authentication device comprises a fingerprint processor configured to process the reference fingerprint image stored in said memory in a form suitable to a request from said terminal device, and transmit the image to said terminal device.

13. A fingerprint authentication device comprising:

a memory configured to store a reference fingerprint image;

a fingerprint receiver configured to receive a partial fingerprint image transmitted from an external device;

a detector configured to detect a plurality of small regions in the reference fingerprint image having a maximum correlation with regard to the fingerprint image received by said fingerprint receiver; and

a collation section configured to determine identity between the fingerprint image received by said fingerprint receiver and the reference fingerprint image based on a position relationship of the plurality of small regions.

14. The fingerprint authentication system according to claim 13, wherein

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said memory stores the reference fingerprint image of an entire fingerprint;

said fingerprint receiver receives a plurality of partial fingerprint images; and

5        said collation section comprises a synthesizer configured to combine the plurality of partial fingerprint images received by said fingerprint receiver to produce an entire fingerprint image and collates the entire fingerprint image produced by said  
10        synthesizer with the reference fingerprint image of an entire fingerprint stored in said memory.

15        15. The fingerprint authentication system according to claim 14, wherein said fingerprint authentication device comprises a fingerprint processor configured to process the reference fingerprint image stored in said memory in a form suitable to a request from said terminal device, and transmit the image to said terminal device.

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